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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,966	07/11/2005	Paul Stephens	CE031023P	8770

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EXAMINER	
GONZALEZ, AMANCIO	
ART UNIT	**PAPER NUMBER**
2617	

NOTIFICATION DATE	DELIVERY MODE
08/02/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing.Schaumburg@motorola.com
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Office Action Summary	Application No.	Applicant(s)	
	10/541,966	STEPHENS ET AL.	
	Examiner	Art Unit	
	Amancio Gonzalez	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-9,12-14 and 16-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-9, 12, 14, and 16-21* is/are rejected.

7)☒ Claim(s) *3 and 13* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 4, 6, 9, 12, 14, 16-19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riley et al. (US 7136652 B2), hereafter "Riley," in view of Shafran et al. (US PGPub 20030186693), hereafter "Shafran," further in view of Morrison (US 5956629 A), hereafter "Morrison."

Consider claims 1 and 12, Riley discloses determining coverage overlap in a cellular communication system that comprises multiple cells **(see abstract lines 9-18, col. 3 lines 15-22, 37-38, figs. 1, 3, where Riley discusses identifying BTSs by performing cell coverage overlap analysis in a multiple cell communication system)**. Riley discloses receiving measurements of parameters relating to one or more operations of a first cell in a cellular communication system **(see col. 3 lines 52-61, col.**

5 lines 37-53, col. 7 lines 19-37, where Riley discusses receiving detecting and quantifying –measuring- parameters, i.e. time of arrival (TOA), received signal level quantification, total energy detection, energy per pseudo noise (PN) chip, power spectral density, received signal strength (RSSI), etc., from a cell, base station, and the wireless communication unit –the measuring device- establishing a list of possible candidate BTSs and uniquely identifying a particular BTS), wherein said parameters include information relating to how many **(see col. 2 lines 42-51)** and which cells serve a wireless subscriber communication unit **(see col. 7 lines 38-53)**. Riley discloses calculating a degree of coverage overlap for said first cell based on a number of said measurements by partitioning said measurements into at least one of three categories with respect to the first cell, selected from the group of:

(i) A first category where the measurement indicates a wireless subscriber unit that is uniquely served by the first cell,

(ii) A second category where the measurement indicates a wireless subscriber unit that can be served by cells other than the first cell, and

(iii) A third category where the measurement indicates a wireless subscriber unit that is served by a neighboring cell but could be served by the first cell **(see col. 9 lines 17-27, 35-42, where Riley discusses the coverage area determination of a unique BTS serving a mobile station, according to one, *(i)*, of the categories specified above).**

Riley discloses a method by which a base transceiver station (BTS) may be uniquely identified by analyzing cell coverage overlap **(see the abstract, col. 3 lines**

19-25), but does not particularly refer to per-cell traffic parameters. Shafran teaches per-cell traffic parameters **(see par. 0036, where Shafran discusses per-cell traffic statistics).**

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Riley and have it include per-cell traffic parameters, as taught by Shafran, thereby optimizing key performance indicators for the purpose of achieving efficiency of the distribution of communication traffic in every area of a mobile communication network, as discussed by Shafran **(see pars. 0003, 0012)**.

Riley, as modified by Shafran, discloses cell coverage overlap **(see the abstract, col. 3 lines 19-25)**, but does not particularly refer to allocating outage alarm priority. Morrison teaches allocating outage alarm priority **(*outage alarm* read on *loss of signal* –see abstract lines 10-18, col. 3 lines 38-47, col. 6 lines 56-67, col. 7 lines 1-53, where Morrison discusses assigning priority to overlapping transmitters).**

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the invention of Riley and Shafran and have it include allocating outage alarm priority, as taught by Morrison, thereby providing means for a mobile unit to receive uninterrupted service while moving within a multi-transmitter communication network, as discussed by Morrison **(see col. 2 lines 28-49)**.

Consider claim 2, Riley, as modified by Shafran and Morrison, teaches claim 1, and Riley further discloses wherein the step of calculating a degree of coverage overlap based on a number of said measurements employs a statistically valid sample of said

measurements (see col. 9 lines 17-27, 35-42, col. 10 lines 29-33, where Riley discusses statistical cell overlap coverage determination).

Consider claims 4 and 14, respectively, Riley, as modified by Shafran and Morrison, teaches claims 1 and 12 above respectively, and Shafran further teaches converting a number of measurements to (which reads: receiving measure of the traffic density in a cell and expressing it in) Erlangs to determine a coverage overlap based on subscriber traffic within said cell (see Shafran: par. 0037, formula 1).

Consider claims 6 and 16, respectively, Riley, as modified by Shafran and Morrison, teaches claims 1 and 12 above respectively, and Shafran further teaches wherein response to said calculation, re-configuring at least one operational parameter of said cell selected from the group of: a transmit power, a beam-forming antenna changes, and turning off a cell (with the information supplied to computer 37 – see Shafran: fig. 1- optimization of network parameters configuration are effected – see Shafran: pars. 0035, 0054, 0055; –turning off a cell is construed as "reducing wasted over-allocation," as stated in par. 0055).

Consider claim 9, Riley, as modified by Shafran and Morrison, teaches claim 1 above, and Shafran further teaches wherein the wireless communication unit receives measurement reports from a wireless serving communication unit selected from the group of; a base transceiver station and a wireless subscriber communication unit (see Shafran: pars. 0037, 0047, fig. 2, elements 43, 44, 46, 48).

Consider claim 17, Riley, as modified by Shafran and Morrison, teaches claim 16 above, and Shafran further teaches wherein said communication unit configures said cell for at least one of the group of; transmit power changes, beam-forming antenna changes, and switching off said cell site (computer 37 handles information concerning network configuration, and this information may include, for example, the configurations of antennas 22, such as their frequency allocations, locations, height, transmission power- see Shafran: par. 0035; fig. 1).

Consider claim 18, Riley, as modified by Shafran and Morrison, teaches claim 12 above, and Shafran further teaches wherein said communication unit is an operations and management centre configured to receive measurement report data relating to cells in said cellular communication system (computer 37 –see fig. 1- serves as a control center communication unit, which measurement report data related to cells in the cellular communication system – see Shafran: pars. 0035-0037).

Consider claim 19, Riley, as modified by Shafran and Morrison, teaches claim 12 above, and Shafran further teaches wherein measured data includes at least one of the following: (i) Cell statistical information including at least one of Congestion, Blocking, Mean-Hold Time (MHT), and Handover (HO) Cause distribution information (see par. 0042 and fig. 2, element 44); (ii) One or more Measurement Reports (see par 0037; fig. 2, element 50); and (iii) Control Signaling behavior (see Shafran: par. 0035).

Consider claim 21, Riley, as modified by Shafran and Morrison, teaches claim 12 above, and Shafran further teaches wherein said communication unit is able to

communicate on at least on of a GSM, GPRS, UMTS, iDEN, and CDMA cellular communication system (see Shafran: par 0062).

4. Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Riley et al. (US 7136652 B2), hereafter "Riley," in view of Shafran et al. (US PGPub 20030186693), hereafter "Shafran," as applied to claims 1 and 12, further in view of Andersson (US Pat 6173168).

Consider claims 7 and 20, Riley, as modified by Shafran and Morrison, teaches claims 1 and 12 above respectively, but does not explicitly show storing said calculations or using said stored calculation subsequently to determine a cell outage strategy. Andersson teaches storing information and developing cell outages recovery strategies using the recorded information (see Andersson: col. 3, lines 63-67; col. 4, lines 1-13; col. 5, lines 11-22; figs. 1 and 3). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Riley, Shafran, Morrison, and Andersson for the purpose of effectively restoring cells in a radio communication network.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Riley et al. (US 7136652 B2), hereafter "Riley," in view of Shafran et al. (US PGPub 20030186693), hereafter "Shafran," further in view of Morrison (US 5956629 A), hereafter "Morrison," as applied to claim 1, further in view of Tse (US 6480718 B1), hereafter "Tse."

Consider claim 8, Riley, as modified by Shafran and Morrison, teaches claim 1 above, but does not particularly refer to automatic frequency planning. Tse teaches automatic frequency planning (see the title, abstract, col. 2 lines 32-46, where Tse discusses automatic cell frequency planning). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to further modify the invention of Riley as modified by Shafran and Morrison, and have it include automatic frequency planning, as taught by Tse, thereby providing a more accurate system and method for deriving an isolation matrix for a given network that can be easily repeated to accommodate changes in the network's environment and to have a highly accurate isolation matrix that is not dependent on mechanical or human performance, as discussed by Tse (see col. 2 lines 8-30).

Allowable Subject Matter

6. Claims 3 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to Claims 1-4, 6-14, and 16-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to
Customer Service Window
Randolph Building
401 Delaney Street
Alexandria, VA 22314

9. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Amnion Gonzalez, whose telephone number is (571) 270-1106. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Rafael Perez-Gutierrez can be reached at (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Amancio González
AG/ag

July 13, 2007

RAFAEL PEREZ-GUTIERREZ
SUPERVISORY PATENT EXAMINER
7/20/07